S'COOL BREEZE

Volume one, Edition one March 1998

STUDENT OBSERVERS ARE IN THE CLOUDS

The number of cloud observers has grown considerably. We now have 92 participating schools with a total of eight countries represented. Australia recently joined and thus has the distinction of being the first in the southern hemisphere to join the NASA S'COOL research team.

Message From S'COOL Project Director, Dr. Lin Chambers

This first newsletter launches the operational phase of the CERES S'COOL Project. Thanks to all who helped us get things working during our year-long development phase; and welcome to our new paticipants.

Please note that we don't think we've reached perfection yet, so keep those comments and ideas coming. We want to make this project as useful to you as possible. During the operational phase, classes are invited to submit their observations whenever it best fits the work you are doing in the classroom.

You can get the overpass times you need from our website or send us a request. However, we will still announce some Intensive Observation Periods (IOP) when we'd like to get as many reports as possible.

The first IOP is April 1998. This is the second validation month for the CERES instrument on the Tropical Rainfall Measuring Mission (TRMM) apacecraft. All parts of the CERES algorithm should be running this month, including the Cloud Subsystem which gives us the quantities we need to compare to your observations. We invite you therefore to make observations at your convenience during April. Please rememver that the change to Daylight Savings Time will occur in most areas on April 5, 1998. If you want to make observations both before and after that date you must submit two separate requests to the Overpass Calculator.

The next CERES instruments will be launched later this year on the EOS-AM spacecraft. A contest is currently underway to rename this spacecraft to something more interesting. It is open to 8-12th grade students; but submissions must be in English. You can find more details at http://earth.agu.org/eos_am/ or by linking from the main S'COOL page.

TEACHERS

Let us know how many participants you have in your school.

Message from CERES Instrument Principal Investigator

The scientists working on CERES are very glad to have the help from those of you contributing observations to S'COOL. Trying to understand how the Earth responds to changes is very difficult, and your observations give us information that will help us check whether or not the data we produce is giving the right answers.

I was very interested to read the notes many of you had put into the observation log we have at the NASA Langley DAAC. There are interesting differences in the kinds of notes we get from different parts of the world. Some of you are very terse and concise: others seem to enjoy making interesting notes. Your experience is vey similar to the experience that scientists had when they gathered in coffeehouses in the 1700's to exchange and read letters from their colleagues in other parts of the world.

Often, scientists try to explain what they see by writing narratives (or stories) about their observations. We would be interested in what kinds of stories you would tell about your S'COOL observations or about CERES. Perhaps we can have a contest to see who can provide the

most inteesting narrative about your work and ours.

In the not very distant future, you will see some new things we have been working on to try to help you. I hope we will be able to find a way of letting yu find the CERES observations close to the times yu are ovbserving, so you can see what we think we were looking at - even if you don't have a fancy computer with lots of disk.

Keep up the good work.
Dr. Bruce R. Barkstrom

NASA VISITS SCHOOLS

Two of our French classes in Paris finally received a much anticipated visit from Dr. Martial Haeffelin, a member of the CERES team and translator for S'COOL. Dr. Haeffelin spoke with two teachers and their classes. While there he assisted students in identifying cloud types and fraction of cloud coverage. The teachers told Dr. Haeffelin that the project had really brought reality to the classroom and they liked their students having the opportunity to handle a responsible assignment. Their recommendation, "Visit as many classrooms as possible."

Dr. Lin Chambers visited several schools in mid-Michigan while on a trip last fall. Margaret Holtschlag's fourth and fifth grade classes at Murphy Elementary in Haslett, MI, was one school and Chris Hartmann's sixth grade team at Marble School in East Lansing, MI. In Potterville Dr. Chambers visited Matt Galecka's two seventh grade classes and two physics classes at Potterville Junior/Senior high. At Charlotte she visited Julie Crossman 's earth science classes (students included her cousin - "Hi, Amanda!") . Third and fourth graders rounded out her visit in Charlotte, where another cousin attended. "Hi, John!" Also visited was a physics class at DeWitt Hihg in DeWitt.

Dr. Chambers noted the excellent observations being made by Murphy Elementary. Ms. Crossman had provided Lin with the students' questions in advance. She commented on how helpful it was to have them in time to research topics which were of interest to students.

CERES scientist Dr. Ann Carlson visited New Covenant School in upstate New York near the Canadian border in the spring. DAAC staffer Susan Haberer visited Kathy Taylor's classes at Buddy Taylor Middle School in Bunnell, Florida during a trip in December.

Dave Young, our satellite data expert, and Carolyn Green, the educational specialist had the opportunity to visit Poquoson Elementary School in Poquoson, Virginia. Carol Mitchell's fourth graders made quite an impressive welcome to their classroom with cloud models decorating the adjoining hall walls. Each student also kept a cloud/weather journal. Pretty impressive. Maybe we have some future meteorologists in that group.

Chris Ennis of Mason High School and Jill Arminio of Mason Middle School, both from Mason, Ohio introduced Carolyn Green to members of their science departments on a recent visit to Ohio. They were very enthusiastic about joining the S'COOL project and immediately enrolled.

Others have recently heard of S'COOL at the Teaching Inquiry with the Latest Technologies (TILT) conference in Roanoke, Virginia and signed up. Our numbers are growing. Our hall map is checked regularly by members of the CERES team to see where their supporting schools are located. Many of you participated in the pilot program in 1997 and are still actively involved, others have been through at least one phase of observations. To each of you we owe a big thank you.

Upcoming events:

CERES Validation Month
S'COOL Intensive Observing Period
April, 1998

CERES Science Team Meeting
April 21-23,1998

EOS-AM Launch
August 1998

HELPFUL HINTS

For **All** participants:

Remember that for the April observations you will need to use the **Daylight Savings Time** offset. (Unless, of course your area does not observe Daylight Savings Time.)

For **New** participants:

Your login is your last name written in lower case and your password is your first name written in lower case. Reminder: no accents.

HOW TO

Find **overpass times** on website:

- Start with S'COOL homepage
- Select "When to observe"
- Select "overpass calculator"
- Fill in requested information
- Expect information via e-mail in 24 hours.

Share a bright idea with fellow colleagues:

- Start with S'COOL homepage
- Select " Where to get help"
- Select "e-mail discussion lists"
- Follow directions to subscribe
- Responses are received by e-mail

Find **answers** to puzzling questions

- Start with S'COOL homepage
- Select "Where to get help"
- Select " Frequently asked Questions"
- Read answers or submit your own question

The Database Guru Speaks

Anne Racel is asking all participating schools to be very accurate when reporting observations in Universal Time (UT). When in doubt refer to the website or e-mail us for help. Anne suggests that classes have a clock placed in the room that is set to UT.

CONTRIBUTOR'S CORNER
See your ideas published here in next issue.

! ! ! TRY THIS ! ! !
Create a Cloud in a Bottle

Materials: canning jar
flask matches
tubing screen
matches ice
one hole rubber stopper

rocedures:
art One
. Observe empty, dry jar.
. Fill a mason jar with warm water and let sit for a minute with lid on jar
. Pour out most of water and observe.
. Place screen on top with 2 to 3 ice cubes on top of screen and allow to stand one minute.
. Light a match, blow it out and place it in jar and replace top. Observe.
. Remove top and observe.
7. At what point was a cloud visible?

Part Two:
1. Observe empty, dry bell flask.
2. Rinse flask out, pour water out, leaving a little in bottom.
3. Replace rubber stopper with attacher tubing. Observe.
4. Light a match, blow it out and place it in flask and replace stopper. Observe.
5. Designate one student to blow through tubing (which has been washed and sterilized).
6. What occurs while student blows through tubing?
7. What occurs while student is not blowing through rubber tubing?

Conclusion:
1. Write a paragraph summarizing conditions necessary for the formation of your cloud.
2. In a real weather situation what conditions cause clouds to form?

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TEACHERS

Let us know how many participants you have in your school.

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For more information contact us by
Langley DAAC User and Data Services Attn: S'COOL
Mail Stop 157D
NASA Langley Research Center
HamptonVA
23681-0001
phone: (757) 864-5682
FAX: (757) 864-9882
E-mail: scool@larc.nasa.gov
http://asd-www.larc.nasa.gov/SCOOL/
Carolyn Green, editor